

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
9 June 2005 (09.06.2005)

PCT

(10) International Publication Number
WO 2005/052419 A1

(51) International Patent Classification⁷: **F16K 7/12**

(74) Agents: **HEDGES, Martin, Nicholas et al.**; A.A. Thornton & Co., 235 High Holborn, London WC1V 7LE (GB).

(21) International Application Number:
PCT/GB2004/004535

(22) International Filing Date: 27 October 2004 (27.10.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
0325714.4 4 November 2003 (04.11.2003) GB
0325715.1 4 November 2003 (04.11.2003) GB

(71) Applicants (for all designated States except US): **CRANE PROCESS FLOW TECHNOLOGIES LIMITED** [GB/GB]; Grange Road, Cwmbran, Gwent NP44 3XX (GB). **ALFA LAVAL BIOKINETICS INC.** [US/US]; 1635 Market Street, Suite 1500, Philadelphia, PA 19103 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **WILLIAMS, Paul, Martyn** [GB/GB]; 111 Heather Court, Ty-Canol, Cwmbran, Torfaen NP44 6JQ (GB). **BIBBO, Kenneth, L.** [US/US]; Alfa Laval Biokinetics Inc., 1635 Market Street, Suite 1500, Philadelphia, PA 19103 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

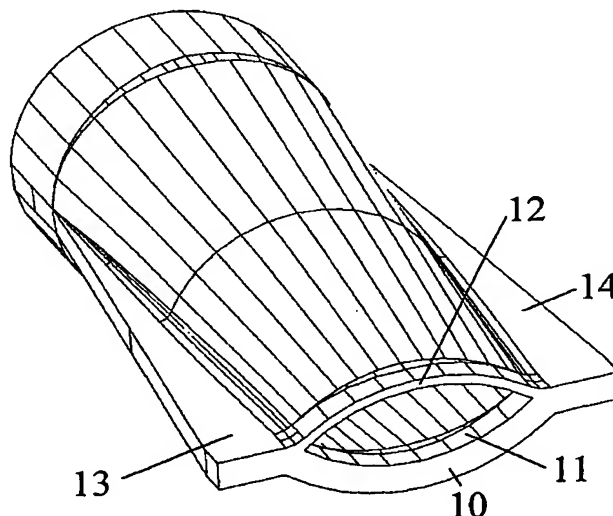
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

[Continued on next page]

(54) Title: **DIAPHRAGM VALVE**



(57) Abstract: A diaphragm valve (1) comprising a valve body (2); a diaphragm (12) which is sealed to the valve body (2) to define a flow passage (9) which extends between an inlet port (7) and an outlet port (8), both defined by the valve body (2); and an operating mechanism (10) secured to the valve body (2) for moving the diaphragm (12) into sealing engagement with a seat (11) provided on the valve body (2) in order to close the flow passage (9) to fluid flow. The valve body (2) and diaphragm (12) are formed as a disposable assembly having a relatively less flexible region which forms a valve seat (11) and a relatively more flexible region (12) which forms the diaphragm which may be forced into engagement with the valve seat (11) to close the flow passage (9) to fluid flow, and a housing (3) is provided for mechanically supporting the region of the valve body in which the seat area is defined.



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.